

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement (IDS) submitted on October 5, 2001 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

REASON FOR ALLOWANCE

2. The following is an examiner's statement of reasons for allowance: prior art fails to teach or fairly suggest ;“a method for taking and evaluating line images of a moving surface comprising steps of: obtaining interferometry or line projection wherein, individual recording are made for producing image sequences synchronously with a surface movement, the individual recording made with an electronic camera in a fixed phase position in relation to an oscillation excitation and at a corresponding short exposure time the movement of lines during the exposure time being negligible, and the individual recordings added in an image recording component of the electronic camera to a summed image with a contrast, which is sufficiently high for evaluation, and is read out in a read-out cycle,” in combination with other elements of independent claims 1 and 5.

3. Although, Fitts in “A high speed 3-d surface measurement surface inspection and reverse CAD system” discloses an apparatus and method for 3-D vision sensing or measurement to rapidly collect X_Y_Z surface data to support dimensional

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measurement. But Fitts fails to teach or fairly suggest "a method for taking and evaluating line images of a moving surface comprising steps of, by obtaining interferometry or line projection wherein, individual recording are made for producing image sequences synchronously with a surface movement, the individual recording made with an electronic camera in a fixed phase position in relation to an oscillation excitation and at a corresponding short exposure time the movement of lines during the exposure time being negligible, and the individual recordings added in an image recording component of the electronic camera to a summed image with a contrast, which is sufficiently high for evaluation, and is read out in a read-out cycle" in combination with other elements of independent claims 1 and 5.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

A: US Patent 5,734,108 to Walter et al is cited for System for sensing shaft displacement and strain.

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B: US Patent 4979815 to Tsilkos is cited for Laser range imaging system based on projective geometry.

C: US Patent 4863268 to Clarke et al is cited for Diffraction sight improvements.

D: US Publication 2003/0151728 to Nishi is cited for Projection exposure apparatus.

E: US 6547395 to Neal et al is cited for Method of measuring moving objects and reducing exposure during wave front measurements.

F: US Patent 6545746 to Nishi is cited for Projection exposure apparatus.

G: US patent 6404482 to Shiraishi is cited for Projection exposure method and apparatus.

H: US 633784 to Mishima is cited for scan type projection exposure apparatus and device manufacturing method using the same.

I: US Patent 6137577 to Woodworth is cited for Method and apparatus for measuring dimensions of objects on conveyor.

K: US Patent 5990990 to Crabtree is cited for three dimensional display techniques.

L: US Patent 4551017 to Mannava et al is cited for Laser Doppler velocimeter for measuring torsional vibration.

M: US Patent 4913547 to Moran is cited for Optically phased locked speckle pattern interferometer.

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CONTACT INFORMATION

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Barry Choobin whose telephone number is 703-306-5787. The examiner can normally be reached on M-F 7:30 AM to 18:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh Mehta can be reached on 703-308-5246. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

Barry Choobin
October 30, 2003


Jayanti K. Patel
Primary Examiner